EXHIBIT T

TO RULE 4.2 STATEMENT OF DR. DOUGHERTY

McGraw-Hill Dictionary of Scientific and Technical Terms

Fifth Edition

Sybil P. Parker
Editor in Chief

McGraw-Hill, Inc.
New York San Francisco Washington, D.C.
Auckland Bogotá Caracas Lisbon London Madrid Mexico City Milan
Montreal New Delhi San Juan Singapore Sydney Tokyo Toronto

On the cover: Photomicrograph of crystals of vitamin B_1.
(*Dennis Kunkel, University of Hawaii*)

Included in this Dictionary are definitions which have been published previously in the following works: P. B. Jordain, *Condensed Computer Encyclopedia*, Copyright © 1969 by McGraw-Hill, Inc. All rights reserved. J. Markus, *Electronics and Nucleonics Dictionary*, 4th ed., Copyright © 1960, 1966, 1978 by McGraw-Hill, Inc. All rights reserved. J. Quick, *Artists' and Illustrators' Encyclopedia*, Copyright © 1969 by McGraw-Hill, Inc. All rights reserved. *Blakiston's Gould Medical Dictionary*, 3d ed., Copyright © 1956, 1972 by McGraw-Hill, Inc. All rights reserved. T. Baumeister and L. S. Marks, eds., *Standard Handbook for Mechanical Engineers*, 7th ed., Copyright © 1958, 1967 by McGraw-Hill, Inc. All rights reserved.

In addition, material has been drawn from the following references: R. E. Huschke, *Glossary of Meteorology*, American Meteorological Society, 1959; *U.S. Air Force Glossary of Standardized Terms*, AF Manual 11-1, vol. 1, 1972; *Communications-Electronics Terminology*, AF Manual 11-1, vol. 3, 1970; W. H. Allen, ed., *Dictionary of Technical Terms for Aerospace Use*, 1st ed., National Aeronautics and Space Administration, 1965; J. M. Gilliland, *Solar-Terrestrial Physics: A Glossary of Terms and Abbreviations*, Royal Aircraft Establishment Technical Report 67158, 1967; *Glossary of Air Traffic Control Terms*, Federal Aviation Agency; *A Glossary of Range Terminology, White Sands Missile Range, New Mexico*, National Bureau of Standards, AD 467-424; *A DOD Glossary of Mapping, Charting and Geodetic Terms*, 1st ed., Department of Defense, 1967; P. W. Thrush, comp. and ed., *A Dictionary of Mining, Mineral, and Related Terms*, Bureau of Mines, 1968; *Nuclear Terms: A Glossary*, 2d ed., Atomic Energy Commission; F. Casey, ed., *Compilation of Terms in Information Sciences Technology*, Federal Council for Science and Technology, 1970; *Glossary of Stinfo Terminology*, Office of Aerospace Research, U.S. Air Force, 1963; *Naval Dictionary of Electronic, Technical, and Imperative Terms*, Bureau of Naval Personnel, 1962; *ADP Glossary*, Department of the Navy, NAVSO P-3097.

McGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS,
Fifth Edition

Copyright © 1994, 1989, 1984, 1978, 1976, 1974 by McGraw-Hill, Inc. All rights reserved. Printed in the United States of America. Except as permitted under the United States Copyright Act of 1976, no part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of the publisher.

6 7 8 9 0 DOW/DOW 03 02 01 00

ISBN 0-07-042333-4

Library of Congress Cataloging-in-Publication Data

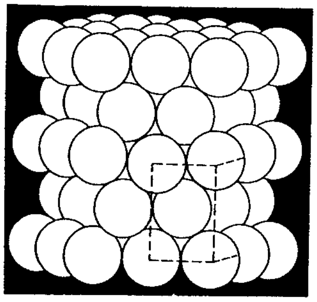
McGraw-Hill dictionary of scientific and technical terms /
Sybil P. Parker, editor in chief..—5th ed.
p. cm.
ISBN 0-07-042333-4
1. Science—Dictionaries. 2. Technology—Dictionaries.
I. Parker, Sybil P.
Q123.M34 1993
503—dc20 93-34772
CIP

INTERNATIONAL EDITION

Copyright © 1994. Exclusive rights by McGraw-Hill, Inc. for manufacture and export. This book cannot be re-exported from the country to which it is consigned by McGraw-Hill. The International Edition is not available in North America.

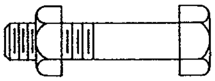
When ordering this title, use ISBN 0-07-113584-7.

HEXAGONAL CLOSE-PACKED STRUCTURE



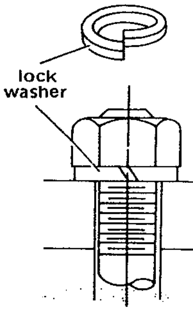
Hexagonal close packing of spheres that simulates the arrangement of the atoms in a crystal that is a hexagonal close-packed structure.

HEXAGONAL-HEAD BOLT



A drawing of a heavy-weight standard bolt that has a hexagonal head.

HEXAGONAL NUT



A hexagonal nut used with a lock washer.

HEXASTEROPHORA

A representative hexasterophoran, *Polylophus.*

white liquid boiling at 210°C, soluble in alcohol, ether, and chlorinated solvents, insoluble in water; used as a solvent, plasticizer, and hydraulic fluid. { ¦hek·sə¦klȯr·ō′prō·pə‚lēn }

hexacontane [ORG CHEM] $C_{60}H_{122}$ Solid, saturated hydrocarbon of the methane series; melts at 101°C. { ‚hek·sə′kän‚tān }

Hexacorallia [INV ZOO] The equivalent name for Zoantharia. { ‚hek·sə·kə′ral·ē·ə }

hexacosane [ORG CHEM] $C_{26}H_{54}$ Saturated hydrocarbon of the methane series; colorless crystals melting at 57°C. { ‚hek·sə′kō‚sān }

hexacosanoic acid *See* cerotic acid. { ¦hek·sə‚kō·sə¦nō·ik ′as·əd }

hexactin [INV ZOO] A spicule, especially in Porifera, having six equal rays at right angles to each other. { hek′sak·tən }

Hexactinellida [INV ZOO] A class of the phylum Porifera which includes sponges with a skeleton made up basically of hexactinal siliceous spicules. { hek‚sak·tə′nel·ə·də }

Hexactinosa [INV ZOO] An order of sponges in the subclass Hexasterophora; parenchymal megascleres form a rigid framework and consist of simple hexactins. { hek‚sak·tə′nō·sə }

hexad axis [CRYSTAL] A rotation axis whose multiplicity is equal to 6. { ′hek·sad ‚ax·səs }

***n*-hexadecane** [ORG CHEM] $C_{16}H_{34}$ A colorless, solid hydrocarbon, melting point 20°C; a standard reference fuel in determining the ignition quality (cetane number) of diesel fuels. Also known as cetane. { ¦en¦hek·sə′de‚kān }

1-hexadecene [ORG CHEM] $CH_3(CH_2)_{13}CH{:}CH_2$ A colorless liquid made by treating cetyl alcohol with phosphorus pentoxide; boils at 274°C; soluble in organic solvents such as alcohol, ether, and petroleum; used as an intermediate in organic synthesis. { ¦wən ‚hek·sə′de‚sēn }

hexadecimal [MATH] Pertaining to a number system using the base 16. Also known as sexadecimal. { ‚hek·sə′des·məl }

hexadecimal notation [COMPUT SCI] A notation in the scale of 16, using decimal digits 0 to 9 and six more digits that are sometimes represented by *A, B, C, D, E,* and *F*. { ‚hek·sə′des·məl nō′tā·shən }

hexadecimal number system [MATH] A digital system based on powers of 16, as compared with the use of powers of 10 in the decimal number system. Also known as sexadecimal number system. { ‚hek·sə′des·məl ′nəm·bər ‚sis·təm }

hexadentate ligand [INORG CHEM] A chelating agent having six groups capable of attachment to a metal ion. Also known as sexadentate ligand. { ‚hek·sə′den‚tāt ′līg·ənd }

hexadiene [ORG CHEM] C_6H_{10} A group of unsaturated hydrocarbons with two double bonds; some members of the group are 1,4-hexadiene, 1,5-hexadiene, and 2,4-hexadiene. { ‚hek·sə′dī‚ēn }

hexafoil [MATH] A multifoil consisting of six congruent arcs of a circle arranged around a regular hexagon. { ′hek·sə‚fȯil }

hexagon [MATH] A six-sided polygon. { ′hek·sə‚gän }

hexagonal close-packed structure [CRYSTAL] Close-packed crystal structure characterized by the regular alternation of two layers; the atoms in each layer lie at the vertices of a series of equilateral triangles, and the atoms in one layer lie directly above the centers of the triangles in neighboring layers. Abbreviated hcp structure. { hek′sag·ə·nəl ¦klōs ¦pakt ′strək·chər }

hexagonal column [METEOROL] One of the many forms in which ice crystals are found in the atmosphere; this crystal habit is characterized by hexagonal cross-section in a plane perpendicular to the long direction (principal axis, optic axis, or *c* axis) of the columns; it differs from that found in hexagonal platelets only in that environmental conditions have favored growth along the principal axis rather than perpendicular to that axis. { hek′sag·ə·nəl ′käl·əm }

hexagonal-head bolt [DES ENG] A standard wrench head bolt with a hexagonal head. { hek′sag·ə·nəl ‚hed ‚bōlt }

hexagonal lattice [CRYSTAL] A Bravais lattice whose unit cells are right prisms with hexagonal bases and whose lattice points are located at the vertices of the unit cell and at the centers of the bases. { hek′sag·ə·nəl ′lad·əs }

hexagonal nipple [DES ENG] A nipple for joining pipe with a hexagonal configuration around the center of the exterior surface to permit tightening with a spanner. { ‚hek¦sag·ən·əl ′nip·əl }

hexagonal nut [DES ENG] A plain nut in hexagon form. { hek′sag·ə·nəl ′nət }

hexagonal platelet [METEOROL] A small ice crystal of the hexagonal tabular form; the distance across the crystal from one side of the hexagon to the opposite side may be as large as about 1 millimeter, and the thickness perpendicular to this dimension is of the order of one-tenth as great; this crystal form is usually formed at temperatures of −10 to −20°C by sublimation; at higher temperatures the apices of the hexagon grow out and develop dendritic forms. { hek¦sag·ə·nəl ′plāt·lət }

hexagonal system [CRYSTAL] A crystal system that has three equal axes intersecting at 120° and lying in one plane; a fourth, unequal axis is perpendicular to the other three. { hek′sag·ə·nəl ′sis·təm }

hexahedrite [GEOL] An iron meteorite composed of single crystals or aggregates of kamacite, usually containing 4–6% nickel in the metal phase. { ‚hek·sə′he‚drīt }

hexahedron [MATH] A polyhedron with six faces. { ‚hek·sə′hē·drən }

hexahydric alcohol [ORG CHEM] A member of the mannitol-sorbitol-dulcitol sugar group; isomer of $C_6H_8(OH)_6$. { ¦hek·sə¦hī·drik ′al·kə‚hȯl }

hexahydrite [MINERAL] $MgSO_4{\cdot}6H_2O$ A white or greenish-white monoclinic mineral composed of hydrous magnesium sulfate. { ‚hek·sə′hī‚drīt }

hexahydrotoluene *See* methyl cyclohexane. { ¦hek·sə¦hī·drō′täl·yə‚wēn }

***n*-hexaldehyde** [ORG CHEM] $CH_3(CH_2)_4CHO$ Colorless liquid with sharp aroma, boiling at 128.6°C; used as an intermediate for plasticizers, dyes, insecticides, resins, and rubber chemicals. { ¦en ‚heks′al·də‚hīd }

hexametapol [ORG CHEM] $C_6H_{18}N_3OP$ A liquid used as a solvent in organic synthesis, as a deicing additive for jet engine fuel, and as an insect pest chemosterilant and chemical mutagen. { ‚hek·sə′med·ə‚pōl }

hexamethonium [PHARM] One of a homologous series of polymethylene bis(trimethylammonium) ions, of the general formula $[(CH_3)_3N(CH_2)_6N(CH_3)_3]^{2+}$, in which *n* is 6; possesses potent ganglion-blocking action, effecting reduction in blood pressure; used clinically as a salt, commonly bromide or iodide. { ‚hek·sə·mə′thō·nē·əm ′klȯr‚īd }

hexamethylene *See* cyclohexane. { ‚hek·sə′meth·ə‚lēn }

hexamethylenediamine [ORG CHEM] $H_2N(CH_2)_6NH_2$ Colorless solid boiling at 205°C; slightly soluble in water, alcohol, and ether; used to make nylon and other high polymers. { ¦hek·sə′meth·ə‚lēn′dī·ə‚mēn }

hexamethylene tetramine *See* cystamine. { ‚hek·sə′meth·ə‚lēn ′te·trə‚mēn }

hexamethylphosphoric triamide *See* bempa. { ‚hek·sə‚meth·əl′fäs′fȯr·ik trī′am·əd }

Hexanchidae [VERT ZOO] The six- and seven-gill sharks, a group of aberrant modern elasmobranchs in the suborder Notidanoidea. { ‚hek′saŋ·kə‚dē }

hexane [ORG CHEM] C_6H_{14} Water-insoluble, toxic, flammable, colorless liquid with faint aroma; forms include: *n*-hexane, a straight-chain compound boiling at 68.7°C and used as a solvent, paint diluent, alcohol denaturant, and polymerization-reaction medium; isohexane, a mixture of hexane isomers boiling at 54–61°C and used as a solvent and freezing-point depressant; and neohexane. { ′hek‚sān }

1,6-hexanediol [ORG CHEM] $HO(CH_2)_6OH$ A crystalline substance, soluble in water and alcohol; used in gasoline refining, as an intermediate in nylon manufacturing, and in making polyesters and polyurethanes. { ¦wən ¦siks ‚hek‚sān′dī‚ȯl }

hexanitrodiphenyl amine [ORG CHEM] $(NO_2)_3C_6H_2NHC_6H_2(NO_2)_3$ Explosive, yellow solid melting at 238–244°C; insoluble in water, ether, alcohol, or benzene; soluble in alkalies and acetic and nitric acids; used as an explosive and in potassium analysis. { ¦hek·sə¦nī·trō·dī′fen·əl ′am‚ēn }

hexapetalous [BOT] Having or being a perianth comprising six petaloid divisions. { ¦hek·sə′ped·əl·əs }

hexaphenylethane [ORG CHEM] $(C_6H_5)_3CC(C_6H_5)_3$ The dimer of triphenylmethyl radical. { ¦hek·sə¦fen·əl′eth‚ān }

hexapod [CONT SYS] A robot that uses six leglike appendages to stride over a surface. { ′hek·sə‚päd }

Hexapoda [INV ZOO] An equivalent name for Insecta. { hek′säp·əd·ə }

hexaster [INV ZOO] A type of hexactin with branching rays that form star-shaped figures. { ′hek‚sas·tər }

Hexasterophora [INV ZOO] A subclass of sponges of the class